

Docket No. 210093US2S/sh

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Shoichi UCHIDA

SERIAL NO: 09/891,316

GAU: 2811

FILED: June 27, 2001

EXAMINER: Junghwa M. IM

RCE FILED: July 30, 2003

FOR: SEMICONDUCTOR DEVICE MANUFACTURING METHOD AND SEMICONDUCTOR DEVICE
MANUFACTURED THEREBY

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references cited in the attached Chinese Office Action listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.

- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.

- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
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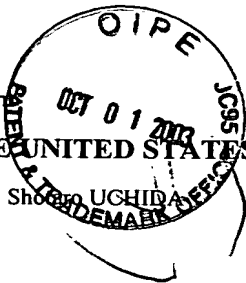
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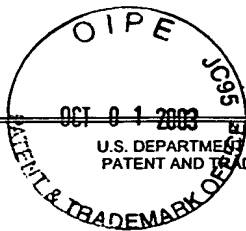
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Form PTO 1449
(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

210093US2S

SERIAL NO.

09/891,316

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Shotaro UCHIDA

FILING DATE

June 27, 2001

RCE FILED: July 30, 2003

GROUP

2811

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	5,567,656	10/22/96	D.- S. CHUN			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AO	11-297916	10/29/99	JAPAN		X
	AP					
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	
	AX	
	AY	
	AZ	

☐ Additional References sheet(s) attached

Examiner

Date Considered

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1. The Examiner has examined the patent application, based on the provision under Section 35 (1) of the Chinese Patent Law.
2. The applicant has claimed September 21, 2000, the filing date to the Japan Patent Office, as the priority date.

The applicant has already filed the priority certificate.

4. The examination has been conducted for the documents of the original application.
5. This notification of opinion has been prepared after conducting an investigation.

The references below have been cited in the notification of opinion (the numbers of the references will be continuously used in the examination procedures in the future).

1. JP11-297916A, published on October 29, 1999
2. US5567656A, published on October 22, 1996

6. Regarding the claims

Claims 1-6 do not fulfill the requirement of an inventive step provided in Section 22 (3) of the Patent Law.

7. The applicant has to explain the reason a patent should be granted to the patent application above in the opinion statement and must amend the parts that have been indicated as not meeting the requirements indicated in the notification. Otherwise, a patent cannot be granted.

9. There is a total of two pages of the official text of the notification including the following attached documents:

Copies of the two cited references (15 pages).

The First Reasons for Rejection (Official Text)

The invention is related to a manufacturing method for a semiconductor device comprising a plurality of pins and the semiconductor device obtained by the method. The following is the examination opinion given by the examination.

1. Although claim 1 claims a manufacturing method for a semiconductor device, Reference 1 (the specification and the attached drawing) discloses a method for sealing a semiconductor chip. That is, the semiconductor chip is mounted on the lead frame, an inner lead and a semiconductor chip electrode is connected, and a connection tie-bar between the inner leads is removed. This shows that most of the technical features in claim 1 has already been disclosed in Reference 1. The technical idea claimed in claim 1 which differs from Reference 1 is that the semiconductor chip and a die pad, the inner lead and the semiconductor chip electrode and a connection pad of an outer lead is conductively fixed by applying heat after adhering them with an adhesive member. However, the above feature is already disclosed in Reference 2 (page 3, lines 25-59, and Fig. 4 of the specification). That is, to adhere the lead and the semiconductor chip electrode with an adhesive member and conductively fix it by applying heat. Reference 2 discloses the function to conductively fix the lead and the semiconductor electrode, which is the same function as the present invention. Based on Reference 1, a person skilled in the art can obtain the enlightenment of providing the technical idea claimed in claim 1 by applying the above features to Reference 1, from Reference 2. That is, it is evident to a person skilled in the art to provide the technical idea of claim 1 by combining References 1 and 2. Therefore, claim 1 does not have any substantial features or remarkable

inventive steps compared to the combinations of References 1 and 2. Thus, the invention does not fulfill the requirement in the provision related to the inventive step in Section 22 (3) of the Chinese Patent Law.

2. Although claim 2 claims a semiconductor device, Reference 1 (the specification and the attached drawing) discloses a sealing device of semiconductor chip comprising a semiconductor chip mounted on a lead frame, and an inner lead connected to the semiconductor chip electrode to remove the connection tie-bar between the leads. As shown above, most of the technical features in claim 2 are already disclosed in Reference 1. The technical ideas claimed in the claim differ from Reference 1 in that the area size of a main electrode and a sub electrode of the semiconductor chip is different. The difference in the area size of the main electrode and a sub electrode does not effect the structure of connection of the lead. Thus, the difference in the feature does not have any substantial features or remarkable inventive steps. Therefore, claim 2 does not fulfill the requirement in the provision related to the inventive step in Section 22 (3) of the Chinese Patent Law.

3. The technical features added to the restricted parts of claims 3-6 are common means to a person skilled in the art. The technical ideas claimed in claims 3-6 do not fulfill the requirement in the provision related to the inventive step of Section 22 (3) of the Chinese Patent Law when the cited claim 2 does not have an inventive step.

4. The applicant should amend the descriptions "connected through the adhesive member to the die pad 9" (page 6, line 9 of the specification) to "connected through the adhesive member to the die pad 1", and "in the second embodiment" (page 9, line 8 of the specification) to "in the third

embodiment".

For the above reasons, the application will not be granted a patent with the present descriptions. The applicant must file amended documents to speed up the process of the examination.